

III.—*New Species of Indo-Malayan Heterocera, and Descriptions of Genitalia, with reference to the Geographical Distribution of Species resembling each other.* By Colonel C. SWINHOE, M.A., F.L.S., &c.

[Plates VII.—XI.]

THE geological distribution of species has always been the weak point of all lepidopterists; the superficial resemblance of specimens from widely different parts of the globe has sufficed to declare them as of identically the same species. I have endeavoured in this paper to show that this is easily disproved by the examination of the genitalia. When the genitalia are so different as to make it impossible for breeding with each other, it is positive proof of the difference of species. Classification based upon eye-judgment alone is bound to be faulty. There are, of course, many problems before us still: species which appear to the eye abundantly distinct have a habit of presenting similar genitalia; on the other hand, species which to the eye appear to be identical possess genitalia which are very distinct from each other.

I am much indebted to the Rev. C. R. N. Burrows for the great pains he has taken in dissecting the moths I have sent him, and to Mr. F. N. Pierce of Liverpool, to whom all Mr. Burrows's drawings were submitted by him, and to them both for their joint report. All the Plates were drawn by Mr. Burrows and the text-figures by Mr. Pierce, and the remarks on the genitalia of the different species are extracts from their joint reports.

Family Agrotidæ.

Chloridea marmada, nov.

♂. Palpi, head, thorax, and fore wing whitish flesh-colour, nearly white, without any markings whatever except black dots on the vein and on the outer margin of the wing; hind wing pure white, with a black outer marginal band, cilia white. Underside: both wings white, fore wing with a discoidal black spot and a short medial subterminal black band, hind wing with a similar black band; abdomen with the basal segments white above, the two middle segments red-brown, the anal segments shading paler; anal tuft with pale

red-brown hairs. On the underside the body and legs are white.

Expanse of wings, ♂, $1\frac{2}{10}$ inch.

Hab. Roebourne, Australia.

The shape of the wings is similar to that of *C. obsoleta*, Fabr., but the fore wing is narrower.

Euxoa cabara, nov.

♀. Head, thorax, and fore wing ochreous brown: fore wing with the costa yellowish, with black and pale yellow spots; a black spot in the cell and another at the end; sub-basal, antemedial, medial, and postmedial outwardly curved transverse lines of black dots, the first two more or less obsolete hindwards, the last outwardly edged by a pale yellowish line; between this and the margin there is a pale brown band composed of a double line of spots, the margin with black lunules; cilia brownish yellow, with basal black minute lunules, a yellowish line between the two rows of lunules: abdomen and hind wing pale brown, the cilia yellow, with minute black lunules. Underside: fore wing with black and yellow dots on the costa towards the apex; a double discal row of brown spots, the outer row with a black spot on the costa; the whole inner surface of the wing from these rows to the base of the wing is brown, the outer portion whitish grey: hind wing whitish grey, irrorated with brown atoms; a black discoidal spot, an outwardly curved brown macular band in continuation of the inner macular row of the fore wing; cilia of both wings whitish grey, with black basal points.

Expanse of wings, ♀, $1\frac{2}{10}$ inch.

Hab. Padang, W. Sumatra; three specimens.

Family Acronyctidæ.

Genus AMPHIPYRA, Ochs.

I have long been in doubt that *A. surnia*, Felder, from Japan, was the same as *A. pyramidea*, Linn., from Europe; and, moreover, I have always been of opinion that there were two species in Japan, and therefore sent examples of both to Mr. Burrows, and also an example of *A. magna*, Walker, from the Punjab, and his and Mr. Pierce's joint report, com-

paring their genitalia with that of the European species *A. pyramidea* from Mucking in Essex, is as follows:—

“ These mounts show four distinct species closely allied.

- “ Plate no. IX. fig. 12. *surmia* (Yokohama, Japan) (mounted dorsal uppermost). Valve squared, uncus large, cornuti long and fine, no pips on ‘vessica.’
- “ ” 13 *a. pyramidea* (England). Valve pointed upwards, many hairy cornuti, many pips.
- “ ” 14. *magna* (Punjab). Valve pointed but not upturned, enormous cornuti, pips large and few.
- “ ” 13. *yama* (Asama Yama, Japan). Valve square, the uncus agrees with the other forms but much smaller, there are a large number of cornuti.”

Amphipyra yama, nov.

♂ ♀. Palpi, head, and body ochreous brown; collar and thorax pricked with grey and white: fore wing with a short longitudinal black streak inside the end of the cell; subbasal line indicated by a black mark on the costa; antemedial line consisting of obscure black lunules pricked with white; a postmedial sinuous line of black lunules outwardly edged with white; some black streaks on the veins between this and the outer margin, which contains black lunules at the vein-ends inwardly edged with white; cilia ochreous brown: hind wing pale dull red, without markings. Underside: both wings brownish grey; a pale, outwardly curved, brownish discal band, and on the hind wing a discoidal spot; face, pectus, thorax, and legs dark greyish brown; tarsi black.

Expanse of wings $2\frac{2}{10}$ inches.

Hab. Asama Yama, Japan.

Allied to *A. surmia*, Felder; fore wing narrower, and the apex subacute; genitalia different (Pl. IX. fig. 13).

Family **Erastridæ**.

Lophoruza cretonia, nov.

♂ ♀. Head and body ochreous brown; wings dull ochreous, irrorated with brown, markings red-brown: fore wing with the costa brown, with some darker spots; faint transverse

somewhat sinuous lines, subbasal and antemedial, the outer third of the wing brown, paling towards the costa; a large yellowish-white patch near the hinder angle, consisting of three conjoined spots, decreasing in size from the hinder margin upwards, the patch with broad dark brown sides containing small pale dots on the margins: hind wing darker in colour, with a central yellowish space.

Expanse of wings 1 inch.

Hab. Coomoo, Sherlock River, Australia.

Cerynea sumatрана, nov.

♂. Head and body dark chocolate-brown; thorax with a yellow spot on each side; abdomen with yellow bands, most prominent on the first two segments: wings with the basal half ochreous, thickly irrorated with brown on the basal two-thirds, the outer portion of the ochreous space with the minute irrorations leaving an ochreous band across the middle of the wings, not reaching the costa on the fore wing, its outer edge outwardly angled above the middle and below the middle on the hind wing; the costal space and outer marginal space dark chocolate-brown; the outer margin of both wings with black spots; cilia dull ochreous, with brown spots and brown tips. Underside: fore wing blackish brown, an ochreous spot at the end of the cell, hinder margin with the basal half ochreous; hind wing blackish brown, an ochreous middle band and a black spot in the cell.

Expanse of wings $\frac{9}{10}$ inch.

Hab. Padang, W. Sumatra.

Family Stictopteridæ.

Stictoptera talagi, nom. nov.

Stictoptera tongluana, Swinhoe, Ann. & Mag. Nat. Hist. (8) xix. p. 338 (1917).

Hab. Talagi (Everett).

I made a mistake in reading the label on this species. Talagi is a small island off Isabel Island in the Solomon group; Tonglu is in Sikkim. It is therefore necessary to alter the name of the species.

Family Sarrothripidæ.

Characoma sumatрана, nov.

♂. Resembles *Characoma curiosa* *, Swinhoe, from Burma.

* Trans. Ent. Soc. 1890, p. 235.

Head, body, and fore wing grey, irrorated with minute chocolate-brown atoms; markings chocolate-brown; a band behind the head: fore wing with a duplex, outwardly and evenly curved band across the wing at the basal third (*curiosa* also has this band, but it is sharply angled inwards below its middle); some brown marks at the base, costa and hinder margin of the wing, a patch on the costa extending from near the band to near the apex; a fine medial, wavy, transverse line, which does not reach the hinder margin; a small ringlet in the interno-median interspace beyond the middle, some spots in a row above it; a sinuous subterminal line; a double marginal line with its upper half filled in with brown; cilia grey, with some pale brown marks: hind wing white, with some slight grey suffusion on the outer margin.

Expanse of wings, ♂, $1\frac{8}{10}$ inch.

Hab. Padang, W. Sumatra.

Blenina alena, nov.

♂ ♀. Head, thorax, and fore wing uniform dark grey; a brown line behind the head and a brown line down each side of the thorax; abdomen pale grey: fore wing irrorated with minute brown atoms; subbasal line represented by a black spot on the costa and another below it; antemedial line very sinuous, commencing with a spot on the costa, then outwardly curved, bent inwards at the cell, then outwards into a long acute angle, and runs down to the hinder margin; post-medial line also very sinuous and more or less dentate in parts, outwardly highly curved, some marginal black points and pale grey cilia: hind wing greyish white, the costal and outer marginal spaces suffused with brownish grey, the veins dark grey on the outer half of the wing. Underside: fore wing blackish brown, a small space at the base and the hinder margin white: hind wing much as it is on the upper-side.

Expanse of wings, ♂ ♀, $1\frac{3}{10}$ inch.

Hab. Mackay, Queensland.

Selepa orangea, nov.

♀. Palpi, head, body, and fore wing blackish brown; the ground-colour of the fore wing is really pale pinkish, but it is most thickly covered with blackish irrorations, leaving a pale streak below the costa and a broader pale streak from the costa near the apex to the middle of the hinder margin; reniform and orbicular represented by white dots, the latter

surrounded by blackish and again by pale pinkish; a duplex, oblique, and highly curved line, centred with white from the median vein near the base to the middle of the wing above the hinder margin; above this is a similar circular duplex line outside the space round the orbicular, these lines more or less indistinct; an obscure pale pinkish space on the hinder margin beyond the middle; marginal line black, inwardly edged with pale pinkish on both sides; cilia brown: hind wing dark grey, the outer margin brownish; outer marginal line black, somewhat sinuous, outwardly edged with a pale line; cilia brown.

Expanse of wings, ♀, 1 inch.

Hab. Sarawak, Borneo.

Gadirtha guineana, nov.

♂ ♀. Palpi greyish white, second joint black on the sides; head and thorax mixed grey and white; a black stripe behind the collar and one on each side of the thorax; abdomen dark grey, with darker segmental bands: fore wing with the ground-colour white, densely irrorated with pale chocolate-brown; costa with a large black antemedial patch and a smaller curved subapical patch, and two black spots between them; orbicular and reniform round black rings, pale inside and dull ochreous spot in their centres, the former small, the latter very large; black marks below the first patch, some black spots in an oblique row in the disc, black marginal lunules at the vein-ends, and a number of black spots close together on the outer half of the hinder margin, above which there is some whitish suffusion: hind wing pale grey, outer margin broadly blackish; cilia of both wings pinkish grey.

Expanse of wings, ♂ ♀, $2\frac{1}{10}$ – $2\frac{2}{10}$ inches.

Hab. Dinawa, 4000', Mt. Kebea, 6000', New Guinea (*A. E. Pratt*).

Several examples. Some of the specimens have a dark central suffusion, somewhat resembling *G. impingens*, Walker; genitalia different (Pl. IX. figs. 10 & 11); note the difference in the valvule, costa, uncus, and the extraordinary development of the gnathos, which is new to us; the tegumen is also utterly different.

Family **Acontiidæ**.

Genus MAURILIA, Möschler.

M. iconica, Walker, is quite different from *M. cervina*,

Walker—two cornuti in the latter, three in the former, one short and two geminate, besides other differences shown in the figures. *M. undaira*, mihi, and *M. tunicata*, mihi, are also distinct species; besides the enlargement of the costa, the cornuti are absent, the rugose patch on the vesica is much more prominent, and there are many other features which the figures will show (note arm on costa and cornuti). I have *undaira* from New Guinea and *tunicata* from New York, N. Queensland, and had specimens from both localities examined (Pl. VII. figs. 1, 2, 3, 3 a, & 4).

Maurilia instabilis.

Anomis instabilis, Butler, Ill. Het. B.M. vii. p. 72, pl. cxxxi. fig. 3 (1889).

Maurilia iconica, Hampson (part.), Phal. xi. p. 373 (1912).

The prominent black discoidal lunule on the fore wing differentiates it from *iconica*; the genitalia is also somewhat different; note the thickening of patch on costa and the two cornuti instead of three.

In my collection from Kursejong and the Khasia Hills.

Pl. VII. fig. 1 *instabilis*, fig. 2 *iconica*.

Maurilia tunicata, nov.

♂. Palpi brown, first joint white beneath; head, thorax, and fore wing of the type-specimen pale rufous tinged with ochreous; in the other examples the colour is darker, markings indistinct, but apparently similar to those of *M. undaira*; hind wing pale black, veins dark black; abdominal area somewhat paler. Underside blackish, the costa and hinder margin of the fore wing and the costa and abdominal margin of the hind wing whitish; pectus, body, and legs white, legs with brown stripes; tarsi black, with white rings.

Expanse of wings, ♂, $1\frac{3}{10}$ inch.

Hab. Cape York, N. Queensland, Australia; two examples.

Pl. VII. fig. 3. Note the difference of arm on costa and cornuti.

Maurilia undaira, nov.

♂. Palpi, head, body, and fore wing purplish brown; two antemedial lines, a large round whitish reniform, with a minute yellow centre ringed with brown, this large spot interrupting the medial line, all erect and sinuous, the sub-basal line not distinguishable; two oblique, sinuous, post-

medial lines from the costa beyond the middle to the hinder margin near the angle; a submarginal sinuous series of black points, all these lines somewhat indistinct: hind wing blackish brown, becoming pale towards the abdominal margin; no markings; cilia of both wings concolorous with the wings. Underside rather pale purplish black: fore wing with centre suffused with black, the hinder marginal space whitish grey, and the costa grey: hind wing with some (but less) black suffusion in the middle; a discoidal black lunule; the abdominal marginal space pale: body and legs of the colour of the wings, legs with white stripes, tarsi with white rings.

♀. Paler, with a rufous tinge; markings similar.

Expanse of wings, ♂ $1\frac{3}{10}$, ♀ $1\frac{6}{10}$ inch.

Hab. Ekeikei, 1600', New Guinea.

Genitalia distinct, note arm on costa, no cornuti (Pl. VII. figs. 3 a & 4).

Maurilia fortis, nov.

♀. Palpi, head, thorax, and fore wing dark rufous, with a curved dark brown patch below the middle of the costa, containing a dull scarlet patch against the costa and a curved similarly coloured spot on its lower outward side; a white dot ringed with brown in its centre, two grey large spots or patches inside the outer part of the brown space, and a white dot; lines a little darker than the ground-colour; subbasal lines short; two oblique sinuous antemedial lines, two similar postmedial lines, a submarginal series of black dots; cilia brown, with white tips: hind wing pale brown, costal space grey, no markings; cilia ochreous, with white tips. Underside: body white; legs white, with a brown stripe on the upper side; tarsi dark brown, with white rings: wings grey, fore wing with some brownish suffusion in the cell region; cilia of both wings brown.

Expanse of wings, ♀, $1\frac{7}{10}$ inch.

Hab. Ekeikei, 1500', New Guinea.

Maurilia dalama, nov.

♀. Palpi pale red, the last joint brownish; thorax dark pinkish brown; collar and fore wing pinkish red; abdomen pinkish grey, with brown segmental lines: fore wing uniform pinkish red, lines slightly darker; indistinct subbasal line short, antemedial line slightly sinuous, erect; a faint lunular

discoïdal mark, a short sinuous mark above it, another sinuous line inwardly below it; a postmedial highly curved and recurved line; a row of submarginal black dots; cilia concolorous with the wing: hind wing white, without markings. Underside: body, legs, and wings white, somewhat shining, without any markings.

Expanse of wings, ♀, $1\frac{2}{10}$ inch.

Hab. Queensland, Australia.

Carea intermedia, nov.

♂. Head and thorax dark flesh-pink; a dark line down each side; abdomen white, with some flesh-pink suffusion and segmental lines: fore wing clear, pale flesh-pink; a darker line from the costal third to a little beyond the middle of the hinder margin, nearly straight, slightly bent inwards below the costa; a dark inwardly and evenly curved line from the costa one-fourth from the apex to the hinder angle, some slight darker shading on the upper half; on the inner side of this line a faint line runs close to it; outer marginal line and cilia dark brown: hind wing pure white, without markings; cilia brown.

♀. More pink than the male; the fore wing is very uniform in shade of colour, with very faint traces of the transverse lines.

Expanse of wings, ♂ ♀, $1\frac{4}{10}$ inch.

Hab. Kandy, Ceylon, and Palni Hills, S. India.

The lines are disposed like those in *C. subtilis*, but it is altogether a different-looking insect. I have *subtilis* of both sexes from different parts of India and also from Ceylon.

Pl. VIII. fig. 6 *subtilis*, fig. 7 *intermedia*; the genitalia varies but little.

Carea innocens, nov.

♀. Palpi, head, thorax, and fore wing bright pinkish red; palpi white beneath, the colour of the wing very uniform and bright; the only lines at all distinguishable are two, and these are very indistinct—the first a slightly curved line a little darker than the ground-colour from the costa before the middle to the hinder margin near the angle, the other an erect whitish line from the costa one-fifth from the apex to the hinder angle; the cilia is brown, the outer margin of the wing angled as in *C. subtilis*: hind wing white, the outer margin narrowly suffused with pale pinkish red; cilia similarly coloured, with pale basal line: abdomen white, with

dorsal black dots. Underside: both wings pale pinkish red, hinder marginal space of fore wing glistening white, the base and abdominal half of hind wing whitish; body and legs white; upperside of legs pinkish red.

Expanse of wings, ♀, $1\frac{1}{2}$ inch.

Hab. Palli Hills, Bandora, near Bombay.

Acontia dohertyi, nov.

♀. Palpi yellow, its upperside dark brown; head, thorax, and fore wing bright clear yellow, very uniform in colour: fore wing with the markings dark chocolate-brown, costal line chocolate-brown, subbasal line hardly visible, antemedial line inwardly curved obliquely from the costa, one-third from the apex, then inwardly curved to the hinder margin one-third from the hinder angle, forming a very acute angle above its middle, its point continued to the outer margin below the apex; a curved line from the costa before the apex to the end of the other line below the apex; postmedial line similar in shape, its point with a line connecting it with the antemedial line at its middle; a spot at the upper end of the cell, a fine anteciliary line, and dark chocolate-brown cilia: hind wing yellowish white, without markings; cilia pale chocolate-brown. Underside: both wings yellowish white, without markings.

Expanse of wings $1\frac{4}{10}$ inch.

Hab. Sambawa Island, west of Java (*Doherty*).

Acontia talauta, nov.

♂. Palpi, head, thorax, and fore wing dark chrome-yellow: fore wing with the lines rufous, antemedial line very acutely outwardly angled to a point on the median vein, then inwardly oblique to the hinder margin at the basal third; postmedial line similarly shaped, commencing on the costa near the apex and ending on the hinder margin a little beyond the middle; a slightly curved short line from the costa one-fourth from the apex, almost parallel with the upper part of the postmedial line; a black dot close to the apex of the wing, the outer marginal space broadly suffused with dark red-brown, its inner side irregular and highly curved; much as in *A. transversa*, Guen.; outer margin of the wing with a line of yellow lunules, cilia dark brown: hind wing yellowish white, nearly white, no markings, marginal line yellow and sinuous, cilia brown. Underside pale yellowish grey, the hinder marginal space of the fore wing and inner portion of

the hind wing paler; pectus dark brown, body and legs greyish brown.

Expanse of wings, ♂, $1\frac{7}{10}$ inch.

Hab. Talaut Island, south of the Philippines (*Doherty*).

The genitalia is somewhat similar to that of *A. migrator*, Walker, from Australia (type from Moreton Bay, Queensland, in B.M.). I have it from Rockhampton, Queensland, but the colour of the insect is very different. *A. migrator* is quite distinct from *A. transversa*, Guen., from India, of which Hampson makes it a synonym.

Pl. VIII. fig. 8 *talauta*, fig. 9 *migrator*.

Family Catocalidæ.

Enmonodia padanga, nov.

♂. Purple-brown tinged with pink, head and collar dark brown; thorax purplish grey with a brown stripe down each side; abdomen with the basal half grey with brown segmental bands, the anal half crimson with brown segmental lines: fore wing with the costal and basal spaces and a smear in the disk purplish grey, the rest of the wing dark purplish brown; a dark brown stripe from the apex to vein 5; an angulated black line down the disk to the hinder margin, outwardly lined with purple-grey (somewhat obscure); a sub-terminal row of black lunules; an inverted comma-shaped discoidal mark composed of fine black rings, its inner end with an oval black spot attached to its outer side: hind wing uniform purple-brown, a postmedian pinkish-grey transverse line composed of conjoined acute angles. Underside uniformly ochreous-scarlet: fore wing with the costa brown; a large round brown spot in the middle of the cell, two brown bars closing the end; three angulated thick brown outwardly-curved lines close together across the middle; a broad brown transverse band on a pale brown space in the outer marginal space: hind wing with a brown lunule in the cell; the three centre thick lines as in the fore wing, but more widely separated from each other, the marginal space as in the fore wing.

♀. Brownish ochreous, minutely irrorated with brown atoms; two round black spots encircled with brownish ochreous opposite the end of the cell; a straight double thin dark brown band from the apex, broadening hindwards and extending to near the abdominal margin of the hind wing, the marginal space outside these lines thickly smeared with

brown; a subterminal series of acutely angled white conjoined marks on both wings from the double line hindwards; on the hind wing between the medial band and the white angular series is a brownish shaded band, the outer margin of the wing dark brown. Underside with the ground-colour as in the male, but densely irrorated throughout with brown atoms, two brown bars closing the cell of the fore wing; a medial blackish-brown line across both wings, bent inwards on to the costa on the fore wing; a similarly shaped but angulated post-medial line, a double submarginal line, the inner one thickened towards the costa of fore wing, and a thin row of black lunules close to the margin; cilia of both wings black.

Expanse of wings, ♂ 3, ♀ $3\frac{1}{2}$ inches.

Hab. Padang, Sumatra.

Anua clementi, nov.

♀. Head, thorax, and fore wing clear ochreous grey: fore wing not irrorated as in most of the species of this group, but striated with grey over the entire wing, the fine striations quite clear throughout and more numerous towards the outer margin; a hardly visible ear-shaped mark at the end of the cell, an angulated black spot on the costa beyond the middle, from its point an outwardly curved, waved, faint grey line runs to near the middle of the hinder margin, where it is bluntly angled and runs up to the costa one-fourth from the base; a broad brown diffused band down the wing one-fifth from the outer margin, angled outwards below the costa, where it is darkest, then somewhat acutely angled inwards and again outwards; cilia brown: hind wing bright ochreous yellow, a broad black discal band, not reaching the hinder angle and suddenly narrowing before reaching the costa near the apex. Underside greyish ochreous: fore wing with a very large lower discal black patch: hind wing with a pale discal brown band, blackish on the costa, and enlarged and black at its lower extremity, which does not reach the hinder angle.

Expanse of wings, ♀, 3 inches.

Hab. Roebourne, Sherlock River, Australia (*Clement*).

The black band of the hind-wing in the type-specimen is much broader than in the others. I have three examples, all females; I can find no striations on the fore wing of any of the long series in my collection of this group. I have seven species, there is no black spot, angulated or otherwise, in the centre of any of them.

Ercheia anvira, nov.

♂. Head, body, and fore wing pinkish brown: fore wing with a pale brown stripe below the middle running from base to outer margin; transverse lines brown, subbasal; short ante-medial and medial; the postmedial line bends outwards from the costa in a circle, is bent abruptly inwards below and then straight to the hinder margin; all these lines are sinuous and double; a brown subapical patch in the costa, reniform, ear-shaped, pale, and on a small brown patch; terminal line crenulate; cilia pale with brown tips: hind wing black, greyish towards the base and abdominal margin; a white spot at the end of the cell, one close to the hinder angle, one near the outer margin below the middle; an elongated white spot on the margin below the apex and another above the hinder angle. Underside pale greyish yellow: fore wing with the costa brown; a brown stripe below the middle from the base to the postmedial brown band, which is straight; a broad discal band: hind wing with a small round spot at the end of the cell; a highly sinuous thin median band, a broad irregular-shaped discal band; both wings with small black lunules on the outer margin.

Expanse of wings, ♂ $1\frac{6}{10}$, ♀ 2 inches.

Hab. Kina Balu, Borneo.

Seven males.

Ercheia careona, nov.

♂ ♀. Head, collar, and thorax pinkish grey; thorax with a brown patch in the middle: fore wing dark pinkish black, pinkish-grey irrorations towards the base; the hinder margin broadly pinkish grey, irrorated with pinkish-brown atoms, this feature less strongly defined in some of the females; a submarginal pinkish-grey line and some pinkish-grey irrorations on the margin: hind wing black, paling somewhat towards the base and abdominal margin; a large white spot at the end of the cell, connected with another near the hinder margin; a long white mark on the outer margin below the apex, and another behind the hinder angle. Underside much as in *anvira*, but the bands are broader.

Expanse of wings, ♂ $1\frac{1}{2}$, ♀ $1\frac{9}{10}$ inch.

Hab. Kalao Island, near Celebes.

One male and five females.

Ercheia enganica, nov.

♂ ♀. Head and body greyish brown: fore wing with the ground-colour brownish pink, irrorated with brown; a triangular black basal patch, edged with white, its lower side limited by vein 1, containing three ochreous costal dots and a subbasal ochreous basal line, the outer lower portion of the wing more densely irrorated; a short white line on the discocellulars, a white dot above it, another outwardly below it; a thick black lunular spot, outwardly pale-edged, in the middle of the first interspace, another beyond it with a black sinuous line, outwardly edged with white, connecting it with the hinder margin; a large black patch on the costa extending to the apex, a white submarginal line running through it and continued with an outward curve to the hinder margin; an indistinct series of black lunules on the margin; cilia brown: hind wing black, slightly paling towards the base; a large white spot at the end of the cell, a smaller one near the middle of the outer margin, and a still smaller one near the hinder angle; a long white streak on the outer margin below the apex. Underside pale yellowish on basal half, then black to the outer margin; a broad white postmedial band narrowing hindwards, a white patch at the apex and halfway down the margin: hind wing with a black spot at the end of the cell; an antemedial outwardly curved thin black band, followed by a white band; the outer half of the wing black, with a thin white band running through it; a white streak on the margin below the apex; a spot on the middle and another near the hinder angle.

Expanse of wings, ♂ $1\frac{1}{2}$, ♀ 2 inches.

Hab. Engano Island, near Sumatra.

Two males and one female.

Genus *BASTILLA*, nov.

Belongs to Hampson's first section of his genus *Parallelia*; mid-tibiæ of male dilated, with a groove containing a fringe of large scales; hind tarsi of male with the first joint fringed with hair above at base; fore wing with the costa lobed before middle.

Type, *Bastilla redunca*, Swinhoe, Cat. Het. Mus. Oxon. ii. p. 141 (fig.) (1900).

Dysgonia manillana, nov.

♂ ♀. Head and thorax greenish brown; abdomen greenish

grey with thin segmental brown lines: fore wing with the basal third greenish brown, blackish towards the antemedial line, where it gradually becomes nearly pure black and is outwardly edged with white; a broad white medial band minutely irrorated with grey; a black discal band, its inner side suffused and thickly joined along the costa to the antemedial line, its outer side angled outwards below the costa and again at its middle, then curving and narrowing inwards to the hinder margin and edged with white; the outer portion of the wing pale brown with a darker shade running through it, ending in an apical black patch with its inner side suffused, its outer side dentated, some dark suffusion at the outer margin: hind wing with the basal third pale brown, a medial white band, darker brown outside it, some white suffusion at the middle of the outer margin; a thin brown marginal line on both wings; cilia of fore wing pale brown, of hind wing white with some pale brown on its lower part. Under-side brownish grey; a broad, diffused, discal, brownish band on both wings with the outer margin whitish.

Expanse of wings, ♂, $1\frac{3}{10}$ inch.

Hab. Manilla, Philippines.

Dysgonia fruhstorferi, nov.

♂. Head and body grey-brown: fore wing with the basal third grey-brown; a broad medial white band rather thickly irrorated with minute grey atoms, especially on the upper and lower ends, the band evenly inwardly curved on both sides, edged with black on the inner side and with a large triangular black patch on the outer side, its outer edge from the costa a little apart from its inner edge, curved into an acute point, then slightly curved inwards and narrowing to a point on the hinder margin, slightly edged with white from the costa to the point, four white costal dots between it and the apex, a brown shade from the apex running down the outer side of the black patch followed by a whitish shade, the outer margin brownish and two black angular spots at the apex, the upper one encircled with white, the lower one edged with white at its outer side; small black marginal spots and cilia; altogether more or less of the *stuposa* pattern: hind wing grey-brown, faint indications of a thin greyish band down the middle and greyish on the middle of the outer margin.

Expanse of wings, ♂, $2\frac{1}{10}$ inches.

Hab. Fergusson Island, Papua (*Fruhstorfer*).

Chalciope saina, nov.

♂. Antennæ and palpi grey-brown, the latter black at the sides; face and pectus greyish ochreous, the latter with a black stripe on each side; legs ochreous grey marked with black; head, body, and wings ochreous brown: fore wing with the inner portion filled in by a very large black elongated triangular patch, edged with whitish, its upper and lower sides almost straight, its outer edge slightly evenly inwardly curved, leaving the margins narrow, its upper point very acute and nearer the apex than it is even in *C. cephise* of Cramer; an oblique narrow white band through its middle, open at both ends, the ends slightly irrorated with brown, some black points on the outer white lining of the black patch, the outer margin brown; the cilia brown with a pale inner line; some whitish suffusion on the hinder margin: hind wing dark brown; a faint, narrow, grey band not nearly reaching either the costa or the hinder angle, where there is a little pale suffusion; cilia grey.

Expanse of wings, ♂, $2\frac{2}{10}$ inches.

Hab. Nias.

Allied to nothing I know of; the largest species of the genus I have yet seen.

Hypætra minima, nov.

♀. Palpi dark brown at the sides, whitish beneath, the tips of last joints white; head, body, and fore wing uniform chocolate-brown: fore wing with a deep black subbasal quadrate patch with pale edgings close to the hinder margin, excavated on its upper and lower sides, a brownish patch between it and the costa; a curious hook-shaped deep black mark at the end of the cell, its upper part thickened and quadrate, a brownish patch between it and the costa, another brownish patch on the costa before the apex, and a small one at the apex; a series of minute black dots on the outer margin: hind wing chocolate-grey, a little paler basally, no markings; cilia of fore wing pale chocolate-brown, of the hind wing slightly paler than the wing-colour, two whitish subapical spots on it and another at the hinder angle. Underside: fore wing greyish brown, hinder margin white, cilia grey: hind wing pale greyish brown, the outer margin broadly darker, cilia white, greyish at the tips.

Expanse of wings, ♀, $1\frac{3}{10}$ inch.

Hab. Luzon, Philippines.

Family Erebiidæ.

We cannot believe that the genus *Argiva* and its allies can belong to the family Catocalidæ. It seems to us that *Argiva* has no relation whatever to the genus *Catocala*; their structure is completely different; they have enormous black densely hairy extensile organs ("coremata") upon the dorsal surface of the tegumen, almost hiding the armature of the delicate valves. These alone confirm, by the absence of the large scaptulum of *Catocala*, that the relationship is mistaken. Pl. X. fig. 20 shows the genitalia of *Argiva hieroglyphica* (the type of *Argiva*), fig. 21 that of *iraxini*, Linn. (the type of *Catocala*), copied from Pierce's 'Genitalia of British Noctuidæ,' fig. 23 that of the common European species, *nupta*, Linn.; note the entire absence of the coremata and the asymmetry of *nupta*, which is usual in *Catocala* and its relatives.

The habits of life of such of the species as are known to me are entirely different to those of the Catocalidæ; they are crepuscular and mostly cave-dwellers, very quick and sharp in their short flights, the males darting forwards and attacking those that pass, much after the manner of some of the butterflies of the family Nymphalidæ. This is particularly the case with *Patula macrops*; I have watched them in the caves of the Island of Elephanta in the Bombay Harbour.

Genus ARGIVA, Hübner.

The genitalia of the different forms of *Argiva* are very similar; the differences are so slight, they may arise from mounting. I give the figure of the costa of *A. hieroglyphica*, the type of the genus (text-fig. 15). There appears to be no difference in any of the mounts except the "costa," which varies slightly under different names.

Argiva lunaris.

Bocana lunaris ♀, Walker, xxxi. 57 (1864).

Nyctipas hieroglyphica, Hampson (part.), Phal. xii. p. 275 (1913).

Hab. Celebes, Gilolo.

A perfectly distinct species, sexes alike. I have both sexes from N. Celebes and Gilolo (text-fig. 18).

Argiva sumbana, nov.

♂. Much like the male of *lunaris*, but the subapical yellowish-white bar is not continuous, but is shorter even than in *hieroglyphica* and is broken into two pieces. Underside paler; two large subapical spots, well separated, another in the middle of the disk.

♀. Fore wing with the basal two-thirds ochreous brown, the outer third black-brown, the comma-shaped discoidal mark as in the male; the subapical bar white and short,

Fig. 15.



Fig. 16.



Fig. 17.



Fig. 18.



Fig. 19



Fig. 15.—*hieroglyphica*. "Costa" more parallel sides.

Fig. 16.—*sumbana*. "Costa" perhaps running narrower.

Fig. 17.—*luzonica*. "Costa" perhaps more curved.

Fig. 18.—*lunaris*. "Costa" appears narrower, but hardly in the same plane.

Fig. 19.—*ceramica*. "Costa" somewhat differently shaped.

consisting of three attached spots, the two lower ones large, the upper ones small; no other markings; hind wing similarly coloured, and with a large white upper discal spot. Underside paler and more ochreous, the spots ochreous white; the subapical spots as above, but not connected; a discal row of large spots across both wings; the middle spot in the fore wing and the second upper spot in the hind wing pushed outwards.

Expanse of wings, ♂ 3, ♀ $3\frac{4}{10}$ inches.

Hab. Sumba Island (*Doherty*) (text-fig. 16).

Argiva luzonica, nov.

♂. Brown-black, the inverted comma-shaped discoidal mark very indistinct, without any distinguishing blue or white scales; the subapical streak very narrow, little more than a thick sinuous line, the colour dark chrome-yellow: hind wing unmarked. Underside paler, the subapical streak thicker and ochreous white, separated into two pieces; a faint small ochreous-white spot in the middle of the disk; hinder marginal spot suffused greyish.

Expanse of wings, ♂, 3 inches.

Hab. Luzon, Philippines (text-fig. 17).

Argiva ceramica, nov.

♂. Black-brown, the inverted comma-shaped discoidal mark very obscure, hardly traceable; the subapical streak more curved than in the other forms, slightly thickened on the costa, but otherwise of fairly even width, ending in a point quite close to the outer margin; colour ochreous white; no other markings. Underside paler, the subapical streak similar; the hinder marginal space of the fore wing slightly suffused with grey.

♀. Fore wing with the basal two-thirds ochreous brown, the ring of the discoidal mark the only distinct part of this mark, its tail well separated from its beginning and connected with a highly curved black line to the hinder margin; the outer third of the wing dark brown; the subapical streak broad, narrowing hindwards, its end blunt and not reaching the outer margin; a large white spot in the middle of the disk: hind wing with the basal half dark brown, the outer half ochreous brown, divided by a series of indistinct whitish marks. Underside paler; both wings uniformly coloured, except that the hinder margin of the fore wing is slightly greyish; the subapical streak and discal spot as above; a minute whitish spot in the upper disk of the hind wing.

Expanse of wings, ♂ 3, ♀ 3½ inches (text-fig. 19).

Hab. Ceram Island.

Genus *CARIONA*, nov.

Differs from the genus *Patula* in having the hind wing normal, the neuration normal. In *Patula* the costal half is aborted, and forms a fold turned over on the upper surface containing a large glandular patch, making the veins aborted. Section III. B. of Hampson's genus *Nycipao*, Phal. xii. p. 286 (1913).

Type, *albicincta*, Kallar.

Genus EREBUS.

Erebus variegata.

Nyctipao variegata, ♂, Butler, Ann. & Mag. Nat. Hist. (5) xiv. p. 432 (1887); Hampson (part.), Phal. xii. p. 296, pl. 206. fig. 6, ♂ (1913).

Hab. Solomons.

N. caliginosa, Butler, *l. c.* p. 433, which Hampson makes the female of *variegata*, is a distinct species; it is not the female of *variegata*. I have the true female of *variegata*, also from the Solomons (from Shortland Island); it is very similar to the male, has more white suffusion in the wings, and is much larger.

Erebus ephesphoris.

Phalena noctua crepuscularis, Cram. Pap. Exot. ii. p. 99, pl. 160. fig. A (1779) (nec Linn.).

Nyctipao ephesphoris, Hübner, Verz. Schmett. 272, 2675 (1827).

Nyctipao ephesphoris, Walker, xiv. 1305 (1853).

Nyctipao leucotenia, Guen. Noct. iii. p. 184 (1852); Hampson, Phal. xii. p. 298, pl. 207. figs. 7 ♂, 8 ♀ (1913).

Hab. Amboina.

I have one male and three females from Amboina which are undoubtedly identical with *leucotenia* and with Hampson's excellent figures. The type came from Amboina.

Erebus saporcea, nov.

♀. Chocolate-brown, tinged with ochreous: fore wing with indications of a subbasal band; a rather broad sinuous antemedial brown band from costa to hinder margin, followed by a similar band a little before the middle, outwardly edged with greyish ochreous from the hinder margin to the whorl-shaped discoidal mark, which is very large; its black ring strongly outwardly edged with white, which thickens on the costa and has a billhook-shaped large centre filled in with brownish ochreous, ringed with deep black, and edged inwardly and outwardly with white; a brown thin even discal band with a slight outward curve from the costa to the outer margin, followed by a pale and more ochreous space; the other third of the wing as dark as its basal portion; a large subcostal white spot before the apex, oval and excavated on its outer side, a small white lunule immediately below it, followed by five white lunular marks inwardly edged with black down the disk—the first minute, the fourth well outwards, the row ending in an outwardly-curved white line close to the hinder margin; cilia brown with white spots at

the interspaces in the lower two-thirds of the wing: hind wing with two bands in continuation of the third and fourth bands of the fore wing, the pale ochreous-tinged space extending almost to the outer margin; a large oval subapical white spot and a row of six white lunules, three and three in echelon. Underside paler and more ochreous; a black and white discoidal lunule on each wing; the subapical and discal spots as above.

Expanse of wings, ♀, $4\frac{4}{10}$ inches.

Hab. Saparæa, Celebes.

Erebus niasana, nov.

♂. Chocolate-brown; head and thorax dark brown; abdomen brownish grey, the first two segments filled in with black-brown, nearly pure black, the next pale grey, the rest of the abdomen darker grey: fore wing with a thick white line, a thin band from the hinder margin one-fourth from the base obliquely towards the apex curling round the discoidal whorl-shaped mark, its outer side before it begins the curl broadly pale grey, extending in a subdued form to the apex of the wing, with some pure white patches outside the band; the ground-colour of the wing above this band very dark chocolate-brown; the black ring round the discoidal mark sinuous, the inner portion is black and confused, outwardly ringed with dull brownish ochreous; a large triangular white subapical spot; some indistinct blackish discal lunules, one or two of them pricked with white: hind wing with the pale grey band of the fore wing continued subbasally, followed by a thin dark brown band; a medial band, an ochreous-grey discal shade with black spear-shaped marks on its outer side; a subapical white lunule and an indistinct submarginal lunular line. Underside with the basal two-thirds pale and ochreous-tinged; fore wing with a subapical white spot and three in the disk; hind wing with a subapical small spot.

♀. Paler than the male; the medial pale grey band obscure; a whitish slightly sinuous line across the disk of the fore wing edged with brown, and continued across the middle of the hind wing; a large subapical spot on the fore wing, with five discal white lunules, outwardly edged with black, the third and fifth with the white only indicated on the hind wing; there is an antemedial band, a white subapical lunule, and a discal row of black lunules inwardly edged with white. Underside as in the male.

Expanse of wings, ♂ $3\frac{8}{10}$, ♀ $4\frac{2}{10}$ inches.

Hab. Sitoli, Nias.

Erebus malanga, nov.

♂. Head and thorax dark brown; abdomen grey with whitish and dark grey segmental bands, the first two segments black-brown: fore wing with the central band broad throughout, slightly curved, and ochreous white until it is sharply angled round the discoidal whorl-shaped mark, the upper part from the angle to the costa quite white; the black ring of the whorl is correspondingly sharply angled, its inner side inwardly edged with white, the centre portion very obscure; the bill-hook is greyish pink ringed with black, and this colour runs right round the centre portion; all the upper portion of the wing is very dark, the subapical spot is fairly large, triangular, its lower point blunt, a small white dot outwards below it, followed by an irregular row of five white lunules outwardly edged with black, the first a double lunule, the lower lunules in a black suffusion, and a black angular patch outwardly edged with white on the hinder margin against the middle of the central band: hind wing with antemedial and medial blackish bands outwardly edged with ochreous grey; a subapical white lunule; a much curved and recurved black lunular discal line inwardly edged with whitish ochreous, greatly protruded outwards in its middle, with a blunt square and ochreous suffusion on each side and a blackish suffused patch below the subapical lunule. Underside pale brownish ochreous, the outer marginal space suffused with brown: fore wing with a whorl of whitish spots round the outside of the cell; a subapical spot, seven discal spots, the fifth well outside: hind wing with a black spot in the cell, two indistinct outwardly curved brownish lines in the middle; a subapical white lunule, a small white dot below it; a discal black lunular line, disposed as on the upperside.

♀. Very similar to the male.

Expanse of wings, ♂ $4\frac{1}{10}$, ♀ $4\frac{2}{10}$ inches.

Hab. Malang, Java.

Erebus philippensis, nov.

♂. Chocolate-brown, tinged with ochreous: fore wing with a thin obscure whitish line from the basal fourth of the hind wing running towards the apex, but not continued beyond the whorl-shaped discoidal mark, which it curves round and thickens somewhat towards the costa; the space above this line dark brown to the apex, but the portion beyond the whorl is without the white line; the whorl line is black as

usual; on the inner side inside the black line is a narrow pinkish-ochreous stripe, its lower end curved and broadened, and joining a large black patch; a thin greyish-ochreous middle line edged with black across the wing, with a small outward angle at its middle; a blackish suffusion on the lower disk; a subapical white rather large spot and four discal white spots in an irregular row, outwardly edged with black: hind wing with the base dark brown; an antemedial brown line with a pale outer edging; a medial somewhat crenulate greyish-ochreous line in continuation of the middle line of the fore wing; a subapical white spot; a discal indistinct greyish-ochreous line, more or less lunular, the hollows of the lunules filled in with black, the row deeply curved above its middle and then deeply and bluntly outwardly angled below its middle; body concolorous with the wings; the first two segments of the abdomen black, the third pale grey. Underside ochreous brown, the outer half dark, limited by a brownish thin band across both wings; the discal markings disposed as on the upperside, the white spots larger.

♀. Brown with a lilac tinge; abdomen with the first two segments black; wings of a uniform colour, the upper dark portion of the male only slightly indicated except towards the apex, which is dark; the whorl-shaped discoidal mark as in the male; a broad white band across both wings, broadest on the hind wing, its outer side with points like a fringe; the discal markings as in the male. Underside pale ochreous brown; the medial white band macular on the fore wing, broad on the hind wing; the discal markings as on the upperside.

Expanse of wings, ♂ 4, ♀ $4\frac{4}{10}$ inches.

Hab. Cape Engano, Luzon, Philippines.

Genus PATULA, Guen.

Patula does not possess the two curious chitinous plates in the connection between the 8th and 9th abdominal segments found in *Argiva*; Pl. XI. figs. 24, 25, 26, & 27 show the genitalia of the true *P. macrops*, drawn on the same plane as in the figure of the genitalia of *Argiva*. In the development of the coremata it agrees with *Argiva*; the structure of the valve and the shape of the penis are the chief points. The hind wing of the male has the costal half aborted, forming a fold turned over on the upper surface, containing a large glandular patch of flocculent hair; vein 4 runs to the functional apex, 5 from the middle of discocellulars, 6 to the fold, 7 and 8 very minute to near base of centre.

Patula moriola, nov.

♀. More or less similar in pattern to the common Indian species *P. macrops*, Linn., but the antemedial line ends hindwards in two conjoined rings, the lower one touching the hinder margin; it is a smaller insect, much paler in colour, without the purplish glow of *patula*, the brown colour having a distinct ochreous tinge; it certainly cannot be the female of *P. macfarlanei*, which Hampson says is also to be found in Amboina, though the type came from Cape York in Australia, the markings being very different.

Expanse of wings, ♀, $5\frac{2}{10}$ inches.

Hab. Amboina Isl.

Patula ordoxia, nov.

♂ ♀. Also very similar in pattern to *P. macrops*, but the outer transverse sinuous lines are farther apart on the fore wing and the submarginal line of the hind wing is not nearly so sharply doubled; it is a very large *Patula*, larger even than *macrops*, and the colour is quite different, being paler and more ochreous even than *moriola*. The genitalia, as might be expected, also differs from that of *macrops*; the valves of *P. macrops* are much broader, the penis is also different, there are larger bunches of cornuti and chitinous red, and the sacculus of the valves is much more developed (Pl. XI. figs. 26 & 27).

Expanse of wings, ♂ $6\frac{2}{10}$, ♀ $5\frac{8}{10}$ inches.

Hab. Alu Island, Solomons, a small island close to Shortland Island.

Two males, four females.

Patula ipsa, nov.

♂ ♀. Very similar in pattern to *macrops*, but paler in colour and is a smaller insect; the genitalia is also different; the penis agrees somewhat with that of *macrops*, but the valves are much narrower; the difference is shown in the Pl. XI. fig. 25.

Expanse of wings, ♂ 5, ♀ $5-5\frac{1}{2}$ inches.

Hab. Kandy, Ceylon.

Family Noctuidæ.

Brevipecten promona, nov.

♂. Palpi white beneath, dark brown above; antennæ

grey; head, body, and fore wing dark grey, the ground-colour being white, thickly irrorated with dark grey atoms; thorax with a brown stripe down each side: fore wing with the lines darker grey, subbasal, from the costa to vein 1 indistinct; antemedial line slightly oblique from costa to hinder margin; medial line similar, its upper part lost in a large jet-black patch from the costa, its inner side deeply excavated and edged with white, a grey line closing the cell; postmedial line outwardly oblique from the costa, acutely angled and inwardly oblique to the hinder margin close to the termination of the medial line; marginal line crenulate, some brownish suffusion on the margin; cilia greyish brown: hind wing pale grey, whitish towards the base and abdominal margin; terminal line dark grey; cilia white on the lower half, grey upwards, intersected by a grey line. Underside: both wings evenly pale grey; a white subapical small patch on the fore wing, with a black spot on its inner side, which is in continuation of an indistinct grey discal transverse line.

Expanse of wings $1\frac{4}{10}$ inch.

Hab. Cape York, N. Queensland (*Dämel*).

Has some resemblance to *B. captatus*, Butler, from India, of which I have both sexes.

Capnodes asulca, nov.

♀. Head, body, and wings dark pinkish brown, very uniform in colour throughout: fore wing with a black spot in the cell and four in a cluster at the end; a curved dark mark on the costa near the apex, with a disjointed white streak on its inner half; a discal transverse sinuous row of white dots from the inner end of the streak across the wing, each dot with a black dot on its inner side; a row of subterminal black dots: hind wing with a discal row of similar white and black dots and subterminal black dots. Underside paler; a discal indistinct thin band and subterminal black dots on both wings; cilia brown.

Expanse of wings, ♀, $1\frac{1}{10}$ inch.

Hab. Khasia Hills.

Diomea nasea, nov.

♂. Very dark olive-brown, nearly black, very uniform in colour; palpi white on the inner sides, a white stripe on each shoulder; thorax and both wings with numerous round white spots: fore wing with costal spots at equal distances apart, with minute dots immediately below them; transverse rows

of basal, antemedial, postmedial, and submarginal spots and some medial white specks, the postmedial row consisting of three rows, the others of two rows and a marginal series: hind wing with indications of a medial white line and many white spots covering the outer half of the wing: legs with white bands.

Expanse of wings, ♂, $1\frac{3}{10}$ inch.

Hab. Kuching, W. Borneo.

Orasia camaguina, nov.

♂. Palpi brown; head and collar orange; thorax and fore wing dark ochreous brown; very dark and uniform in colour on the fore wing, making the markings very obscure and difficult to trace; a darker streak on the median vein; an oblique straight double line from apex to hinder margin, its upper half filled in with pale dull ochreous, a narrow brown shade from its middle to the lower end of the cell, then in a straight line to the middle of the hinder margin; two white ochreous patches on the outer margin, in its middle and at the hinder angle touching each other; cilia dark brown: hind wing white, the veins and streaks in the interspaces pale grey.

♀. Much as in *O. emarginata*, Fabr., from the Indian region, but all the markings on the fore wing more or less obscure.

Expanse of wings, ♂ $1\frac{2}{10}$, ♀ $1\frac{6}{10}$ inch.

Hab. Camaguin Island, near Manilla, Philippines (*Semper*).

Genus SERICIA.

Sericia, Guen. Noct. iii. p. 172 (1852), type *spectans*, Guen., from Australia.

Spiredonia, Hampson, Moths India, ii. p. 457 (1894) (nec Hübner).

Sericia sumbana, nov.

♂ ♀. Fore wing narrow, much narrower than in any other species of this genus; upperside with the ground-colour pinkish grey, suffused in parts with pinkish brown; markings much as in the common Indian species, *S. zamis*, of Cramer; the discal ocellus filling the lower curve of a figure of Σ , small: hind wing of the same pinkish-grey ground-colour, with the usual familiar markings. Underside much paler and brownish grey.

Expanse of wings, ♂ ♀, $2\frac{8}{10}$ inches.

Hab. Samba Island, south of Flores Island in the Timor Sea (*Doherty*).

I have four males and one female of this very distinct form.

Family Hypenidæ.

Genus GLOBOSUSA, nov.

♂. Antennæ unipectinated, palpi long and somewhat upturned, the first two joints thickened and with stiff paired bristles, the last joint very slender, with bristles before its end; top of head with short thick hairs which protrude somewhat in front; all the legs naked, with very long spurs; both wings rounded in a circular form: fore wing broad, costa and hinder margin straight, cell broad, discocellulars nearly straight; vein 2 from a little beyond the middle of the cell, 3 from about halfway from it and the cell-end, 4 and 5 from the end; 6, 7, 8, and 9 deeply curved, 6 from upper end, 7, 8, and 9 stalked: hind wing with vein 2 from the middle of the cell, 3 and 4 on a short stalk, 5 from the cell-end, 6 and 7 from the upper end, 8 free, recurved, touches 7 near its base.

Type, *G. curiosa*, mihi.

A very curious-looking moth.

Globosusa curiosa, nov.

♂. Antennæ grey, palpi blackish brown, legs yellow striped with black on the upperside; head, thorax, and fore wing saffron-yellow: fore wing with faint indications of subbasal, antemedial, and postmedial grey lines; a blackish postmedial patch on the costa and black dots on the outer margin: hind wing yellowish white, indications of a recurved medial grey line, its lower part with black spots on veins 3 and 2 and two near the abdominal margin; indications of a postmedial outwardly curved grey line and black lunular spots on the outer margin. Underside uniform yellowish white; fore wing with a linear black spot in the cell, a smaller one at the end, small postmedial and subapical brownish marks; hind wing with a small lunular discoidal black spot.

Expanse of wings, ♂, 1 inch.

Hab. Saugir Island, south of the Philippines (*Doherty*).

Bertula adra, nov.

♂. Upperside : head, thorax, and fore wing dark olive-brown ; traces of antemedial, medial, and postmedial outwardly curved, somewhat sinuous brown lines ; a submarginal straight white line inwardly edged with dark brown from the costa near the apex to the hinder margin close to the angle : hind wing brownish grey, a faint brown lunule at the end of the cell ; traces of a medial outwardly curved brownish line ; a white submarginal line from close to the hinder angle, angled outwards, then crenulate upwards, and becomes obsolete before reaching the costa. Underside grey : fore wing with some brownish suffusion on the upper part, whitish along the hinder marginal space ; a postmedial, outwardly curved, crenulate brown line ; a straight brownish submarginal line ; the outer portion of the wing whitish : hind wing white, thickly irrorated with brown atoms ; a brown lunule at the end of the cell ; two outwardly curved crenulate brown lines, outwardly edged with white, corresponding to the two lines on the fore wing.

Expansion of wings, ♂, 1 inch.

Hab. Jaintia Hills, Assam.

Genus WILKARA, nov.

♂. Antennæ simple ; palpi upturned, very long, second joint very long, rising much above the head, densely hairy, third joint concealed by the hairs ; hind legs with the tibiæ densely hairy, the tufts of hairs extending, reaching halfway down the naked tarsi ; thorax crested ; abdomen smooth : fore wing narrow, costa nearly straight, apex somewhat rounded, outer margin convex, hinder angles somewhat rounder, hinder margin slightly convex : hind wing with the costa straight, apex and hinder angle rounded, outer margin nearly straight : fore wing with vein 2 from the middle of the cell, 3, 4, and 5 from the lower angle, 6 and 7 from upper angle ; a long brush of stiff straight hairs from the subcostal vein crossing the upper end of the cell, with some shorter similar hairs beyond it : hind wing with vein 2 from before the middle of cell, 3, 4, and 5 from the lower end, 6 and 7 from upper end, 8 free.

Type, *W. nigerrima*, nov.

Walkara nigerrima, nov.

♂. Upperside dark uniform black, with a slight lilac tinge: fore wing with a small white dot in the middle of the cell, a white spot at the end; a brown, nearly erect, antemedial line, a white subapical costal dot, a black apical spot; an oblique, straight, brown, thick line from this spot right across both wings, outwardly edged with whitish, to the abdominal margin of the hind wing beyond the middle. Underside: fore wing coloured like the upperside, the costal space above the subcostal vein pinkish grey, the outer veins streaked with pinkish grey; the brush of hairs grey: hind wing black, the abdominal space pale.

Expanse of wings $1\frac{4}{10}$ inch.

Hab. Kalim Bungo, Central Nias (*Kannegieter*).

Bomolocha olypea, nov.

♂. Head, body, and wings dark pinkish grey: fore wing with the costal line black; a large medial black patch across the wing, its inner edge upright but bent inwards a little on the costa, its outer edge from one-sixth from the apex with many outward dentations to vein 3, then with a slight inward curve obliquely to the hinder margin a little beyond the middle; no other markings on either wing. Underside pale uniform brownish grey, fore wing with some blackish suffusion on the basal half.

Expanse of wings, ♂, 1 inch.

Hab. Mahableshwar, Bombay Presidency.

Bomolocha commixtura, nov.

♂. Upperside olive-brown; the ground-colour is really whitish, but the whole surface of both wings is densely irrorated with olive-brown atoms: fore wing with a black discoidal spot; traces of a whitish, outwardly curved, antemedial line; a postmedial white line, inwardly edged with black, outwardly oblique and incurved below the costa, then slightly sinuous, straight down with a slight incurve to vein 2, then with smooth inward curve to the hinder margin beyond the middle; traces of a white sinuous submarginal line; a white marginal lunular line outwardly black-edged; cilia with indistinct white inner line: hind wing paler; an indistinct, whitish, outwardly curved, postmedial, sinuous

line, the outer margin marked like it is on the fore wing. Underside brownish grey, with some grayish-white streaks in the interspaces.

Expanse of wings, ♂, $1\frac{2}{10}$ inch.

Hab. Lombok Island, between Bali and Sumatra.

Bomolocha variegata, nov.

♀. Palpi and head greyish ochreous, thorax greenish brown, wings greyish ochreous: fore wing with the costal line greenish brown, a patch of that colour in a triangular form filling the cell and the basal part of the next lower interspace; the outer part of the wing similarly coloured, an apical curved ochreous-grey streak in it which joins the ochreous-grey space between, the hinder portion of the wings ochreous grey; marginal line brown, crenulate, and with white points; cilia ochreous grey: hind wing without markings, the margins as on the fore wing. Underside ochreous grey, as also are the body and the legs: fore wing with a white spot at the end of the cell and two subapical white spots, the latter nearly obsolete in the type-specimen.

Expanse of wings, ♀, $\frac{9}{10}$ inch.

Hab. Kina Balu, N. Borneo.

Bomolocha uniformis, nov.

♂. Palpi, head, thorax, and fore wing dark greyish ochreous; a blackish discoidal spot, no other markings: hind wing grey, also without markings. Underside: body, legs, and wings uniformly grey, no markings except for an indistinct darker grey discoidal spot on each wing.

Expanse of wings $1\frac{3}{10}$ inch.

Hab. Jaintia Hills, Assam.

Family **Nymphulidæ**.

Dracænura arfakalis, nov.

♂ ♀. Palpi brown, white beneath; collar grey; head, thorax, and fore wing dark purplish brown: fore wing with the veins blackish; a black spot in the cell and another at the end, no other markings: hind wing pure white; a brown marginal band with irregular inner margin, thickened some-

what at the apex : abdomen with the basal half grey, with some white on the segments ; anal half black, tuft white. Underside : fore wing paler, a black discoidal spot ; hind wing as on the upperside ; body and legs white.

Expanse of wings, ♂ ♀, 1-1 $\frac{1}{10}$ inch.

Hab. Arfak Mts., N. New Guinea, 4000' (Pratt).

EXPLANATION OF THE PLATES.

PLATE VII.

Fig. 1. *Mauvilia instabilis*, p. 71.

Fig. 2. — *iconica*, p. 71.

Fig. 3. — *tunicata*, p. 71.

Figs. 3 a, 4. — *undaira*, p. 71.

PLATE VIII.

Fig. 6. *Carea subtilis*, p. 73.

Fig. 7. — *intermedia*, p. 73.

Fig. 8. *Acontia talauta*, p. 74.

Fig. 9. — *migrator*, p. 74.

PLATE IX.

Fig. 10. *Gadirtha impingens*, p. 70.

Fig. 11. — *guineana*, p. 70.

Fig. 12. *Amphipyra surnia* (Yokohama, Japan), p. 67.

Fig. 13. — *yama* (Asama Yama, Japan), p. 67.

Fig. 13 a. — *pyramidea* (England), p. 67.

Fig. 14. — *magna* (Punjab, India), p. 67.

PLATE X.

Fig. 20. *Argiva hieroglyphica*, p. 81.

Fig. 21. *Catocala fraxini*, p. 81.

Fig. 23. — *nupta*, p. 81.

PLATE XI.

Fig. 24. *Patula macrops*, p. 87.

Fig. 25. — *ipsa*, p. 88.

Figs. 26, 27. — *oxdovia*, p. 88.